DO OFFICER AGE AND YEARS OF EXPERIENCE IMPACT THE LEVEL OF FORCE USED IN DOMESTIC VIOLENCE SITUATIONS: FINDINGS FROM A SIMULATED TRAINING ENVIRONMENT

by

Shaylen J. Hedington

A thesis submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfilment of the requirements
for the degree of Master of Science in
Criminal Justice

Charlotte

2024

Approved by:

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Dr. Joe Kuhns

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Dr. Lyn Exum

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Dr. Janne Gaub

ABSTRACT

SHAYLEN J. HEDINGTON. Do Officer Age and Years of Experience Impact the Level of Force Used in Domestic Violence Situations: Findings from a Simulated Training Environment. (Under the direction of DR. JOE KUHNS)

Use of force by the police has gained considerable research attention in recent years, however, there is a limited understanding of officer use of force when responding to domestic violence calls. These calls are believed to be among the most dangerous to respond to and therefore it is necessary to understand an officer's decision to use force to promote better responses from officers and limit instances of inappropriate or excessive force. Using secondary data, this paper seeks to understand the impact of officer age and years of experience on the decision to use force in a simulated domestic violence response setting. These relationships are examined through assessing 64 sworn officers' responses to a simulated domestic violence scenario, with 102 civilians included as an untrained comparison group. Participants were able to respond to the scenario via using no force, de-escalation tactics, non-lethal force (pepper spray and taser), or lethal force (firearm). Binary logistic regression, ordinary least squares regression and multinominal logistic regression models were used to analyse whether force was used or not, the time it took to use any force, and the level of force used. Results indicated that officer age and years of experience do not predict officer's decisions to use force. The findings did imply that officer training was important in facilitating officer's use of de-escalation tactics. Further research is required to better understand use of force when responding to domestic violence calls. Findings hold implications for policy and the implementation and development of de-escalation training.

ACKNOWLEDGEMENTS

I would like to acknowledge and thank my thesis committee for their significant guidance and support with completing this thesis. I am grateful to my chair, Dr Kuhns, for his expertise and encouragement and for consistently providing timely and thorough feedback. He made completing my thesis a seamless and enjoyable experience. I am also grateful to my committee members, Dr Exum and Dr Gaub, for offering their advice and assistance throughout this process. Their suggestions for the analytical phase were particularly appreciated. Together, my committee not only helped make this thesis possible but further ignited my passion for research.

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CHAPTER 1: INTRODUCTION

Research into law enforcement officers use of force, and specifically use of excessive force, has gained considerable traction within recent years. (Brandl & Stroshine, 2012). This interest can, in part, be attributed to the ubiquitous nature of smartphones and social media, and the ease of capturing such incidents and sharing them in real time (Jennings et al., 2019; Kramer & Remster, 2018). The growth of research on use of force also comes in the wake of civilian protests and public outcry for greater monitoring of officer discretion and accountability in relation to such incidents (Kramer & Remster, 2018; Todak & White, 2019; Fridel et al., 2020; Johnson et al., 2019; Johnson et al., 2022). Law enforcement officers are authorized and equipped with the ability to use force as needed; however, these decisions should be selective, and the level of force should match the situation at hand (Myhill & Johnson, 2016). Use of force is intended to assist in apprehending a suspect, gaining control of a situation, and limiting potential danger to an officer, the public or even the suspect (Gabaldon, 2009; Lee et al., 2010).

The general consensus is that use of force refers to the amount of effort required by an officer to gain compliance from a resistant suspect (Pica et al., 2020; Alpert & Dunham, 2020). Currently, there is no uniform use of force continuum, as each department sets their own standard (Knutsson, 2010). However, use of force typically consists of de-escalation and verbal commands on the low end of the spectrum, tasers, pepper spray and similar methods being somewhere in the middle, and an officer pointing or discharging their firearm on the high end of the continuum (Todak & White, 2019; Alpert & Dunham, 2020). Excessive force is then considered to be any force that is greater than necessary to gain compliance from the suspect (Boivin & Lagace, 2016). Despite what is often shared in the media, excessive force is a rare event (Brandl & Stroshine, 2012; Fridel et al., 2020) with most officer-citizen interactions requiring minimal force (Gaub et al., 2021; Terrill, 2003). In instances where

unnecessary force is used, this is commonly an accident rather than an intentional abuse of power (Knutsson, 2010). Furthermore, generally a small percentage of officers are responsible for a large proportion of use of force incidents (Brandl & Stroshine, 2012).

Despite the fact that excessive force is a rarity, there are some nations, namely the United States, that still use greater force than necessary at a higher rate than other nations (Stansfield et al., 2021). The United States records approximately 1000 deaths a year at the hands of the police (Stansfield et al., 2021; Nix & Shjarback, 2021) and the disproportionate killing of minorities is well documented (Hoekstra & Sloan, 2022; Jetelina et al., 2017; Nazaretian et al., 2021; Nix & Shjarback, 2021). Unnecessary force is problematic because it can erode the public's trust in the police, decrease police legitimacy (Carroll, 2022), increase crime and violence (Knutsson, 2010), and incite fear in citizens, all of which limit police effectiveness (Brandl & Stroshine, 2012). This is particularly true when it comes to minority communities who have historically faced oppression and been subjected to excessive force from the police (Chapman, 2012; Johnson & Kuhns, 2009). As such, even infrequent cases of excessive force within these communities can destroy the already fragile police-citizen relations (Chapman, 2012). In addition to the erosion of trust and legitimacy, instances of excessive force can have other substantial impacts on the community and individual. This includes leaving the victim and bystanders with significant trauma (Stansfield et al., 2021), wellbeing problems which may lead into financial issues (Hine et al., 2016), and poorer school performance (Nix & Shjarback, 2021). As it relates to the community, excessive force may cause community unrest, increase crime and disorder, or lead to public protests and rioting (Hine et al., 2016).

Through existing research, it becomes apparent that utilizing force appropriately requires significant and ongoing training (Grant & Rowe, 2011; Quattlebaum & Tyler, 2020). Although law enforcement use of force has received considerable research attention in

relation to an officer's demographics, such as race and age (Hoekstra & Sloan, 2022), and prior misconduct (McElvain & Kposowa, 2004; Ridgeway, 2020), there remains a gap in the literature in relation to use of force required when attending to specific types of calls, including domestic violence calls, which are perceived to present one of the most dangerous situations for officers (Nix et al., 2021; Kuhns et al., 2016). Law enforcement officers, particularly less experienced officers, may be unaware of the challenges, complexities, or threat level that such calls present. It is imperative to develop a greater understanding of force used within these specific situations in an effort to prevent use of excessive force and improve training in the future.

This study will examine the impact of an officers age and years of experience on the level of force used in domestic violence situations through utilizing data from a simulated training scenario. Both officers and civilians participated in a simulation involving a domestic dispute which potentially threatened an officer's immediate safety. The participants response to the simulated situation (i.e., the decision to use force or not, the type of force used, and the time it took to execute that decision) were all recorded, as were the officers age and years of experience.

The results of this study will provide an important contribution to the existing literature and enables law enforcement to deepen their understanding of the importance of initial and ongoing training (Grant & Rowe, 2011; Turner et al., 2019). Greater departmental knowledge should ensure a reduction in inappropriate or fatal levels of force used, a less traumatic experience for suspects and victims, and potentially an increase in the use of de-escalation techniques when responding to domestic violence situations (Todak & White, 2019; White et al., 2021b). These elements are all imperative for optimizing the public's trust in law enforcement.

This paper will begin by providing a discussion on the importance of de-escalation techniques, followed by a review of officer characteristics (including race and gender), suspect characteristics (namely age, gender, race, behaviour, mental health, and intoxication), and contextual and departmental factors, before covering domestic violence, simulation training and the use of citizen academies. The literature review section will conclude with a summary of the key elements influencing officers' decisions to use force and how those decisions might be shaped when responding to domestic violence calls for service.

CHAPTER 2: LITERATURE REVIEW

2.1 De-escalation

Use of force is often considered by way of a continuum, with an officer discharging their gun on the high end of the spectrum, and use of de-escalation and verbal commands on the low end (Todak & White, 2019). De-escalation tactics seek to use the least amount of force possible in order to gain compliance from a citizen (Alpert & Dunham, 2020), and include a range of factors including verbal commands, non-confrontational body language, demonstrating humanity, empathy, listening to the suspect, and being honest and willing to compromise (Todak & White, 2019). A consistent challenge for law enforcement is trying to incapacitate or arrest suspects without causing them unnecessary harm, while minimizing officer injury (Bertilsson et al., 2017; Alpert & Dunham, 2020). As such, there has been a national and international movement toward increasing the use of de-escalation strategies (Engel et al., 2022) and developing the relevant training (White et al., 2021b). De-escalation can prevent officers from using force, reduces the risk of harm to the citizen or officer, and can increase compliance (Todak & White, 2019; White et al., 2021b; Alpert & Dunham, 2020; Engel et al., 2020). Additionally, de-escalation can increase the public's trust and legitimacy in the police through validating the citizens concern, engaging them in the decision-making process and ensuring that they feel they have a voice in the process (Todak & White, 2019). These outcomes are in line with procedural justice by promoting respect and dignity by officers and citizens (Todak & White, 2019).

In order for de-escalation to be more widely adopted it is necessary that officers view the strategy to be beneficial to their practice. Officer resistance can cause difficulties in implementation and do more harm than good when utilized in the field (Engel et al., 2020). As such, White et al. (2021) performed a study assessing officer perceptions on using de-

escalation tactics. They discovered that officers did view de-escalation to be a favourable approach and understood the importance of communication, listening, and staying calm and patient when interacting with a suspect (White et al., 2021). Officers perceived compromise to be the least important aspect of de-escalation, which may highlight a need for training to focus on the importance of compromise. White et al. (2021) concluded that officers were willing to engage with de-escalation-focused training and perceived it to hold some benefits, however, officers were also sceptical of how this would impact the dynamic between themselves and citizens regarding their use of force, citizen aggression and potential officer injury (Stansfield et al., 2021; White et al., 2021). As such, supervisors should make a conscious effort to highlight that de-escalation is not an attempt to limit an officer's authority to use force and risk safety, but rather a strategy to calm a situation before it progresses to that point (White et al., 2021; Engel et al., 2020).

Similarly, White et al. (2021b) extended on the above study by assessing police officers' perceptions on de-escalation after receiving the relevant training. They noted a significantly greater use of compromise, maintaining officer safety, and knowing when to remove themselves from the situation, upon training completion (White et al., 2021b). These factors, particularly knowing when to walk away (although not typically during domestic violence response), are important as this can improve an officer's safety, reduce the risk of injuries, and directly challenges the toxic traditional police culture (White et al., 2021b). Furthermore, de-escalation grants officers additional time to have an officer who is better equipped at handling emotionally heightened situations arrive and/or take over, or to deploy additional resources that provide a better leveraged situation (White et al., 2021b). It is also important to recognise that officer presence is sometimes not needed, such as when a person is mentally unwell (White et al., 2021b). In this instance, the presence of a police officer may

serve to exacerbate, rather than calm, the situation. These studies showcase the benefits of de-escalation and why the appropriate training is necessary to improve police practices.

Although there is a currently a dearth of literature assessing the benefits of de-escalation training on officers' decisions to use force, this has started to receive greater attention in recent years. In addition to the above studies, Engel et al. (2022) recently conducted a randomized control trial (RCT) evaluating the effect of de-escalation training for police in partnership with the Louisville Metro Police Department (LMPD). Over a period of approximately ten months, the LMPD provided random in-service de-escalation training to over 1,000 police officers. The training - Integrating Communications, Assessment and Tactics (ICAT) - focused on providing officers with the skills to manage potentially dangerous police-citizen encounters whereby a citizen may be behaving erratically or in a state of crisis. The outcomes of interest included changes to officer's attitudes, knowledge, and self-reported behaviour and actual behaviour. Surveys were completed immediately following training completion and at a 4-6 month follow up. Engel et al. (2022) found that the implementation of randomly timed de-escalation training was effective in reducing officer use of force, and officer and citizen injuries. It can be theorized that these reductions reflect an officers increased ability to effectively calm down suspects and gain compliance without the use of force. This study is the first of its kind and demonstrates the benefits that de-escalation training can have on limiting instances of unnecessary force. Future research should continue to explore the benefits of de-escalation training.

A real world, successful example can also be seen with the operation of the Norwegian Police Department. As Knutsson (2010) discusses, Norwegian police officers are unarmed and do not actively carry a firearm. They are typically kept in a locked and sealed container inside the patrol car with supervisor authorization required to unlock it. This authorization can be granted if it is believed that officers will encounter an armed suspect, or

officers are responding to a particularly dangerous situation. However, this process requires time which enables officers to holt the situation and control their surroundings. Given the delay between their arrival and authorization, it is almost necessary for Norwegian police to utilize de-escalation tactics and negotiate with suspects. This has had a positive impact on their performance with minimal police shootings and instances of excessive force occurring across the nation (Knutsson, 2010). This is in stark contrast to other developed nations, such as the United States, which tend to over rely on tools of force (Dymond, 2020), and highlights the benefits of using low force tactics, such as de-escalation.

Moving forward, research should continue to assess the benefits of de-escalation methods that prevent officers from needing to use or escalate force (Hine et al., 2016; Engel et al., 2020), and departments should continue to implement the relevant training (Todak & White, 2019). Simulations may be a beneficial tool to utilize in such instances to ensure officers can practice in a controlled setting before entering the field (Paoline et al., 2021). Furthermore, officers are not typically required to fill out paperwork on these successful encounters the same way they need to when force is used (Todak & White, 2019). Therefore, supervisors should make this a common practice to ensure that officers remember such encounters, reflect on what occurred and can recognise the importance of such tactics (Todak & White, 2019). This should be paired with an incentive, when done correctly, either through formal recognition or financial or other rewards (Todak & White, 2019).

While de-escalation has been proven to be effective in limiting instances of force, it is also necessary to acknowledge that it is not without its criticisms. This is usually in relation to concerns that de-escalation training may cause officers to be hesitant to use force, even when appropriate, which could lead to a rise in officer injuries (Engel et al., 2020). Engel et al. (2020) acknowledge that de-escalation can be beneficial in some instances but careless and dangerous in others. They express apprehension regarding the lack of vigorous scientific

research into the impact of de-escalation training (Engel et al., 2020). However, these concerns are not supported by the majority of research which demonstrates a positive effect on policing.

2.2 Officer Characteristics

Race

There is no consensus as to what characteristics make up the typical officer who uses greater force than necessary, specifically in relation to officer race (Lee et al., 2010). Social media will portray the typical culprit to be that of a white, male officer, however, the research remains largely inconsistent. A number of studies have found that the level of force used by an officer is not associated with an officer's race (Lee et al., 2010; Gaub et al., 2021; Boivin, 2017; Brandl & Stroshine, 2012; Lee et al., 2014; McElvain & Kposowa, 2004; Phillips, 2010; Gullion et al., 2023), while others have determined that officer race plays a significant role in predicting which officers will use unnecessary force. Some research indicates that white officers use considerably greater force than officers of other races (Jennings et al., 2019; Williams & Hester, 2003; Hoekstra & Sloan, 2022) and that use of force with a gun occurs twice as often (Hoekstra & Sloan, 2022). Research by Hoekstra and Sloan (2022) also found that white officers use their guns five times as often as other officers, mostly in neighbourhoods predominantly comprised of black residents. White officers are also more likely to use force in a black neighbourhood than a black officer would (Hoekstra & Sloan, 2022). These findings could be due to those officers engaging in racist practices or officers expecting to face increased resistance and thus be quicker to behave aggressively with citizens. Another explanation is that the neighbourhoods examined in the study by Hoekstra and Sloan (2022) just experience a higher crime rate or greater social and economic disadvantage. Additionally, Menifield et al. (2018) proposed that any potential differences in

use of force across officer race can be attributed to the predominance of white officers within police departments across the nation.

Perhaps unexpectedly, some studies also suggest that minority officers use more force than white officers and that an officer being black is a predictor of their probability to shoot a suspect (Phillips & Kim, 2021). Such conclusions were not observed by Hoekstra and Sloan (2022) who determined that black officers fire their gun at similar rates in white and black neighbourhoods and that black officers are less likely to fatally shoot a suspect. These findings are in direct contrast to that of Hoekstra and Sloan (2022) and raise the question of whether social disadvantage could be a feasible explanation for white officers firing at greater rates in black neighbourhoods, when black officers are not using force at similar rates in similar situations. The impact of officer race on police use of force remains unclear, given the discrepancies within the existing research, and requires greater examination to determine the relationship between race and use of force.

Gender

There tends to be more consistency when considering the relationship between use of force and an officer's gender. Although, some scholars have noted no difference with the degree of force used across genders (Boivin, 2017; Brandl & Stroshine, 2012), or witnessed a weak association, this sentiment is not wholly supported across the literature. The majority of research on this topic contends that male officers are more likely to use force (Crawford & Burns, 2008; McElvain & Kposowa, 2004; Phillips & Kim, 2021; Pica et al., 2020; Williams & Hester, 2003), and a higher level of force, than female officers (Boehme et al., 2022; Brandl & Stroshine, 2012). Female officers are also less likely to receive complaints of force (Boehme et al., 2022). As Boehme et al. (2022) posited, this could be the result of women biologically tending to possess more empathetic traits and to naturally be less aggressive.

These traits could be greatly beneficial for utilizing de-escalation techniques, such as communicating with the suspect calmly (White et al., 2021a; Brandl & Stroshine, 2012) instead of resorting directly to the use of a taser or firearm (Todak & White, 2019). This constraint in using force also provides the officer with additional time to adequately assess the situation in front of them and respond in a way that is proportionate to the circumstance (Boehme et al., 2022). These characteristics may also be beneficial for certain encounters with female suspects, specifically when responding to domestic violence calls (Boehme et al., 2022). Women are more likely to be the victims of domestic violence and may experience feelings of fear and intimidation in the presence of a male officer. A more empathetic and understanding approach that accompanies a female officer could increase the likelihood of a positive police-citizen encounter and reduce the risk of unnecessary force (White et al., 2021a; Brandl & Stroshine, 2012).

Although the presence of female officers can reduce the odds of using force in this regard (Brandl & Stroshine, 2012), there has also been some discussion of the potential for women in policing to increase the number of force incidents. This position expresses concern that females are not as strong as males and thus their position in policing can lead to the requirement of greater force to control a situation and limit the risk of officer injury (Boehme et al., 2022). One study found that there is an increased threat of taser use when a female officer is present, which may be the result of the officer compensating for the differences in officer and suspect strength (Boehme et al., 2022). While research by Boehme et al. (2022) determined that greater officer injury is associated with having female officers present, it is unclear the extent to which these findings are replicable. Similar explanations include male officers also feeling the need to be more aggressive with suspects as a means of attempting to compensate for a perceived lack of strength (Boehme et al., 2022).

It is also possible that citizens may view female officers to be less effective physically and therefore behave more aggressively toward the officer, resulting in a greater need for force to restrain the suspect. There was limited research to suggest that female officers increase the use of force, with only research by McLean et al. (2023) concluding that women are more in favour of using force at all and at a higher level than male officers would recommend. In addressing these positions on female officers' physical ability in policing, it is also important to remember the positives mentioned above and acknowledge that the police culture requires considerable growth in supporting women to be successful in their role in law enforcement.

Age/Experience

It is important to note that age and experience will be considered interchangeable within this context, given that a younger age generally correlates with less experience and older age tends to suggest greater police experience. The shared consensus among current literature tends to be that more experienced (i.e., older) officers use less force than younger officers (Gaub et al., 2021; Boivin & Lagace, 2016; Gabaldon, 2009; Lee et al., 2014; McElvain & Kposowa, 2004; Knutsson, 2010) and are more willing and comfortable using empty hand tactics (McLean et al., 2023). The younger and less experienced officers are more likely to use force, and to use force more frequently, than their older counterparts (Brandl & Stroshine, 2012; Chapman, 2012; Williams & Hester, 2003). Younger officers also have a higher likelihood of receiving complaints of misconduct from the public and to be subject to formal investigation (McElvain & Kposowa, 2004). An explanation for this inverse relationship between age and use of force could be the fact that older officers may be less likely to participate in patrol duties, engage with the public, and be assigned to specialized units, such as gang and K9 units, which are more likely to respond to violate situations (McElvain & Kposowa, 2004; Williams & Hester, 2003). This decreases an older officer's

chance of finding themselves in a situation whereby use of force decisions are necessary. Greater experience may lead to opportunities to leave working in a street setting and instead adopt a managerial position or similar.

Younger police officers are often assigned to night shifts and work patrol duties; both of which increase the likelihood of being involved in a use of force incident (Boivin & Lagace, 2016; Brandl & Stroshine, 2012). Night shifts are considered to be more dangerous than day shifts which may see a greater need for force (Brandl & Stroshine, 2012). As such, it may be more appropriate to have less experienced officers work dayshifts more frequently early in their career, or pair them up with an experienced officer when they do work at night (Smith et al., 2022). Alternatively, younger officers may also use force more frequently due to a lack of understanding of police policies or through believing their role is to 'fight crime' versus serving the community (McElvain & Kposowa, 2004; Paoline et al., 2021). It is also possible that they are less tolerant to disrespect from suspects and thus quicker to overreact and resort to unnecessary force, or they may even interpret situations as more threatening (McElvain & Kposowa, 2004). Although, some research indicates that a relationship between age and use of force does not exist, these findings mentioned above still suggest the need for increased training and supervision for younger officers. It can be inferred that an officer's decision making improves as they gain experience and exposure to a range of situations and people (Smith et al., 2022). Therefore, policies and procedures should be implemented or amended to reflect these observations.

2.3 Suspect Characteristics

Age

The effect that various suspect characteristics have on officer use of force decision making has also received considerable attention. The effect of age remains shrouded by

uncertainty with some scholars asserting that there is no association between age and force (Boivin, 2017), while others contend that younger citizens are more likely to have force used against them than older citizens (Boivin & Lagace, 2016; Lee et al., 2014; Morgan et al., 2020). These findings are not shared by Hine et al. (2018) who found that young suspects were more likely to be subjected to lower relative force. The impact of a suspects age on use of force is not wholly understood and requires greater research to determine whether a relationship does exist, and if so, what this looks like.

Gender

In relation to a suspect's gender, males are consistently found to be at higher risk of having officers use force against them (Morgan et al., 2020; Willits & Makin, 2018; Paoline et al., 2021), and for the force to be deadly (Crawford & Burns, 2008), whereas females are less likely to have any force used against them, and in instances where force is used, force is often on the lower end of the continuum (Hine et al., 2016; Hine et al., 2018). These findings could be due to males being naturally more aggressive than females, males committing more crimes than females and thus requiring more force to apprehend them safely, or due to officers perceiving males to be more physically dangerous than females. It could be especially important to approach male suspects in a calm manner and to first attempt to use de-escalation techniques to reduce the likelihood of the situation escalating in severity, whereby force then becomes necessary (Todak & White, 2019).

Race

Perhaps the most widely researched, and controversial, suspect characteristic is race. Those instances of force that involve a black suspect are the ones that gain media traction and circulate around the world (Gaub et al., 2021; Johnson et al., 2019; Kramer & Remster, 2018; Nazaretian et al., 2021; Pica et al., 2020). As such, the influence of a suspect's race on the

decision to use force, and how much force, has become a topic of great interest, and rightly so. While some of the literature indicates that a suspect's race does not affect use of force (Lee et al., 2010; Boivin & Lagace, 2016; Garner et al., 2002; Johnson et al., 2019; Lee et al., 2010), a plethora of research does provide evidence that race is influential. Minorities, or non-white, citizens are more likely to have officers use force against them than white citizens and to be treated more harshly by the police (Chapman, 2012; Kramer & Remster, 2018; Nazaeratian et al., 2021; Pica et al., 2020; Willits & Makin, 2018; Hehman et al., 2018; Kahn et al., 2017; Paoline et al., 2021).

Black drivers are also more likely to be stopped for a traffic offence and to have a weapon drawn against them (Kramer & Remster, 2018; Worrall et al., 2021). Although white people are more likely to be killed when shot at by the police, the threshold for black suspects to be shot at is considerably lower than it is for white suspects (Nazaeratian et al., 2021). The police are more willing to shoot at an objectively less dangerous black person (Kahn et al., 2016; Kahn et al., 2017) and to fire a higher number of bullets (Nazaeratian et al., 2021; Stansfield et al., 2021). Furthermore, Legewie (2016) found that the use of force against black people substantially increases in the days following an officer being shot at by a black suspect. This may be reactionary on the officer's part or due to law enforcement then perceiving the black community to be more dangerous to their own safety (Kramer & Remster, 2018).

Minority communities, and individuals, may be subjected to greater force by the police for a number of reasons. It could be that some officers anticipate citizens in these communities to be non-compliant and resistant due to their historical oppression and in the wake of publicised instances of excessive force of black suspects (Kahn et al., 2017). The police could also hold harmful beliefs that black people committing crimes are more threatening or dangerous than white people committing similar crimes (Hehman et al., 2018;

Kahn et al., 2017). This was supported by research conducted by Hehman et al. (2018), in which the strongest predictor of being subjected to lethal force in their study was the officer holding an implicit stereotype that black people are likely to possess a firearm. Racism is present systemically and it is not far-fetched to consider that this may lead to unfavourable treatment of certain communities (Menifield et al., 2018). Essentially, black people are subjected to force quicker than white suspects (Kahn et al., 2017), which limits the ability for officers to gather time specific information which helps inform their decision to use force (Willits & Makin, 2018). When force is used against white suspects, it is typically deemed more necessary to control the situation and efficiently apprehend the suspect as the officer has taken more time to assess the level of risk in front of them (Willits & Makin, 2018; Kahn et al., 2017). Either way, these findings indicate that a suspect's race is important to consider when examining officer use of force. Additionally, law enforcement training should be culturally informative and seek to prevent instances of racial injustice.

Behaviour

Research has consistently found that suspect resistance is the strongest predictor of an officer using force (Lee et al., 2010; Gaub et al., 2021; Boivin & Lagace, 2016; Boivin, 2017; Crawford & Burns, 2008; James et al., 2018; Lee et al., 2010; Lee et al., 2014; Morgan et al., 2020; Johnson, 2011; McLean et al., 2023; Paoline et al., 2021). This can be interpreted as the suspect ignoring prior commands given by the police (Phillips & Kim, 2021), the suspect refusing to be placed in handcuffs and be arrested, or even the individual attempting to flee the scene (Boivin, 2017; Crawford & Burns, 2008). Additional behaviours that increase the likelihood of being subjected to force include being confrontational (James et al., 2018), posing a threat to officer safety, displaying agitation, adopting a hostile demeanour (Crawford & Burns, 2008; Garner et al., 2002; Johnson, 2011; Paoline et al., 2021), and antagonising the police (Boivin, 2017; Gabaldon, 2009). These indications of non-compliance lead to an

officer using increased force to successfully apprehend the offender. Another strong predictor of having force used against citizens, is possession of a weapon (Crawford & Burns, 2008; Phillips & Kim, 2021; Willis et al., 2023; Johnson, 2011; Paoline et al., 2021). Law enforcement officers are likely to perceive this as a substantial threat to officer safety, regardless of whether the suspect makes a move to use the weapon or not. It is in these circumstances, that an officer may also use excessive force. A fatality is much more likely to occur when the suspect has a weapon within their possession (Jennings et al., 2019).

As such, it is imperative, that law enforcement improve their training protocols for responding to suspects who have a weapon. It has been found that some departments do not have written policies regarding when to use force in these circumstances and how much force is acceptable (Kuhns et al., 2016). The officer may fear for their own safety and be quick to react with unnecessary force if they are not confident in how to effectively de-escalate the situation, or even how to approach the citizen.

It is important to note that these findings are generally focused on the citizen merely possessing a weapon, and not specifically drawing and/or firing the weapon. Given that some countries, including the United States, allows for the public to possess various types of firearms, officers should receive specific and extensive training on this matter to limit instances of excessive and fatal force. Training simulations may be beneficial within this context to provide officers with simulated exposure prior to encountering it in the field. A small number of studies found that the police take longer to use force when a suspect is resisting arrest, which may be reflective of the officer waiting for backup or attempting to utilize de-escalation techniques and any appropriate methods they learnt in training (Willits & Makin, 2018; Hine et al., 2018).

Mental Health

Another necessary aspect to consider is a suspect's mental health or level of intoxication and the role this plays in the officer-citizen encounter. The literature regarding both intoxication and mental health is mixed with some scholars supporting the notion that the mentally ill have force used against them at higher rates (Hine et al., 2016; Morgan et al., 2020; Willis et al., 2023) and are treated similarly to armed suspects (Bertilsson et al., 2017). Officers have been found to keep a greater distance between them and a mentally ill person and to use a higher dosage of OC spray when deployed. This is similar to how an officer would behave when a suspect is in possession of a weapon (Bertilsson et al., 2017). Law enforcement officers may interpret people with mental health problems as being more unpredictable, and thus dangerous, leading to a higher use of force (Johnson, 2011). In contrast to this, Stansfield et al. (2021) concluded that the mentally ill have a lower risk of being subjected to excessive force involving a firearm and to have it discharged against them. Similarly, Gullion et al. (2023) did not find evidence of a relationship existing between a citizen's mental health and officers' decision to use force.

Intoxication

Being under the influence of drugs or alcohol seems to increase the likelihood of an officer using force (Boivin, 2017; Crawford & Burns, 2008; Dymond, 2020). Being affected by alcohol, specifically, was also found to increase the chance of being shot by the police (Gabaldon, 2009). It is possible that the police view impairment brought on by alcohol or drugs to negatively affect the suspects ability to make rational decisions (Willis et al., 2023). They are then perceived to be unpredictable, which poses a greater threat to themselves and the officers (Willis et al., 2023). The police may seek to eliminate this risk by initially using force rather than waiting to see if the situation will escalate. Training should focus on

educating officers on the best practices to use for these circumstances and on improving de-escalation techniques (Todak & White, 2019). This can serve to remove some of the unpredictable nature in attending these calls and increase the officer's confidence in dealing with the suspect without using unnecessary means (Willis et al., 2023).

2.4 Contextual Factors

Different contextual factors lead to differences in the level of force used, both reasonable and excessive (Brandl & Stroshine, 2012; Gullion et al., 2023; Paoline et al., 2021; Shjarback, 2018). Some community characteristics that are related to higher use of force rates include a neighbourhood's racial composition (Smith & Holmes, 2014; Paoline et al., 2021), arrest rates, economic inequality (Gabaldon, 2009), higher unemployment rates (Lee et al., 2010) and increased violence (Gaub et al., 2021; Paoline et al., 2021). These will be discussed in greater detail below.

While a suspect's race has been implicated in officers use of force decision making, the same can be said for the racial composition of a neighbourhood. Communities comprised of predominately minorities, or people of colour, tend to be subjected to more instances of force than white communities (Chapman, 2012; Lersch et al., 2008). However, this could also be tied to the fact that minority communities disproportionately experience social and economic disadvantage and are more likely to reside in high crime areas (Chapman, 2012; Nouri, 2021). This is important since both of these factors also increase the risk of force (Petersson et al., 2017; Stansfield et al., 2021) as officers are more likely to encounter dangerous suspects who present a more serious risk to the officer's safety (Lee et al., 2010; Brandl & Stroshine, 2012; Fridel et al., 2020; Garner et al., 2002; Lee et al., 2014; Nouri, 2021; Hine et al., 2018). Furthermore, there is an increased rate of citizen gun use within these disadvantaged areas due to the public also feeling that their safety is threatened. This

further serves to explain why such neighbourhoods experience force and lethal victimization as officers may feel unsafe attending these calls. It is within these neighbourhoods that more serious crimes are also likely to be committed (Paoline et al., 2021; Chapman, 2012; Nouri, 2021).

The nature of an offence is associated with the degree of force used. For example, a suspect who committed a violent crime, such as homicide, has a greater likelihood of being subjected to force (Gabaldon, 2009; Chapman, 2012). Consequently, officers who typically work in these neighbourhoods and in high crime areas tend to be the more frequent users of force as it is deemed more necessary (Boivin & Lagace, 2016). It is important to mention that some research does not support the idea that neighbourhood factors increase the use of force. Phillips and Kim (2021) asserted that neighbourhood characteristics are not associated with an increased risk of shooting by the police. However, this study is in stark contrast to the findings presented above.

Another factor that influences the decision to use force is responding to a suspicious activity call. This is more likely to result in a suspect fatality than other calls as the nature of the call is unknown (Jennings et al., 2019). Officers arrive on the scene with limited information and must be ready to react. It is an unpredictable situation for the police to find themselves in and it is therefore imperative that the responding officers attempt to collect as much additional information as possible prior to arriving at the scene (Jennings et al., 2019; Hine et al., 2018). Increased and accurate information can reduce the instance of reacting too quickly and using excessive force. It may be beneficial for more experienced officers and multiple officers to answer these types of calls, especially if it occurs during the evening shift as these are also prone to increased force (Boivin & Lagace, 2016; Kuhns et al., 2016).

Interestingly, the presence of other citizens at the scene and a higher number of officers increases the risk of officers using force as well (Boivin, 2017; Gabaldon, 2009; Lee et al., 2014; Morgan et al., 2020; Paoline et al., 2021; Kuhns et al., 2016). This may be because a more serious crime has been committed and therefore more officers have responded to the call, or it could be that officers behave differently and more aggressively in front of their peers (Morgan et al., 2020). This may be particularly true for those officers who believe that policing requires a show of strength and should serve as a deterrence tool (McElvain & Kposowa, 2004). Similarly, speciality units use force nearly four times as often as general patrol units (Gaub et al., 2021). Again, this may reflect the fact that such units tend to respond to more serious calls, or be assigned to more dangerous neighbourhoods, that require increased use of force. Regardless, it is apparent that adequate supervision and accountability mechanisms should be implemented to ensure that the level of force used is proportionate to the circumstance (Gaub et al., 2021).

Some contradiction exists within the literature regarding officer force in public versus private settings, such as within a home. Crawford & Burns (2008) claimed that deadly force is twice as likely to occur during arrests that are made in the street, which makes sense given the ability for suspects to flee. However, Hine et al. (2016) assert that lower force is used for incidents occurring in public spaces. A reason for lower force could be the fact that an officer's surroundings are more visible, allowing them to have a greater understanding of the threats around them, and they are able to freely escape a suspect if needed. Private spaces may pose a certain level of risk to an officer as they cannot always see the situation that they are walking into, and they have limited space to retreat if the suspect aggressively approaches. This could also explain why officers, and data, suggest that domestic violence calls are among the most dangerous (Kuhns et al., 2016).

2.5 Departmental/Organizational Factors

It is also necessary to consider use of force within the departmental/organizational context, as this can shape the way officers approach situations and influence the type of officer that they become (Brandl & Stroshine, 2012). As demonstrated through social learning theory, people are influenced by their surroundings and may adopt favourable attitudes toward deviance or misconduct if that is the environment that they are consistently exposed to (Gaub, 2020; Nouri, 2021). The police culture already possesses the potential to be harmful with officers participating in the 'blue code of silence' (Gaub, 2020; Hine et al., 2016). While it can be a positive thing for officers to have a sense of camaraderie and protection, it can also be damaging if this occurs in relation to brutality or inhumane practices.

The traditional police culture tends to hold the position that police work should be performed aggressively, with officers acting as enforces who do not tolerate citizen resistance and non-compliance (Hine et al., 2016; McElvain & Kposowa, 2004). Although, it is not always predictable which departments and officers will adopt this mentality, it may occur more frequently in younger officers due to them being misinformed of the true nature of policing, being influenced by superiors or being less tolerant to disrespect (McElvain & Kposowa, 2004). It is thus highly important to effectively supervise and train younger officers. Strict adherence to the traditional police culture results in a higher likelihood of using excessive force (Gaub, 2020; McLean et al., 2023). Silver et al. (2017) concluded that the stronger the endorsement for the traditional police culture, the stronger the support for using force against citizens (see also, Paoline et al., 2021). Female and minority officers may be less likely to adhere to this culture due to being historically oppressed and excluded from policing (Silver et al., 2017). These officers could be more inclined to view this traditional mentality as damaging and inappropriate. Black supervisors are also less willing to endorse

the traditional police culture than white supervisors, which means it could be beneficial to have more black officers in positions of power (Silver et al., 2017).

The policing environment in general places exceptional strain and stress on officers, which may also lead to greater instances of force (Silver et al., 2017). Officers are often overworked and underpaid, and it is imperative that they receive the appropriate support to decrease their stress levels which subsequently improves their ability to make decisions and respond in a manner proportionate to the situation. The starting point for reducing instances of force begins with these policies. Policies that require supervisors to fill out use of force reports has been proven to result in lower rates of force used (Paoline et al., 2021). Similarly, fewer lethal and less severe force instances occur in police departments that adopt more restrictive force policies (Paoline et al., 2021). While this may seem to be the obvious route to take, Kuhns et al. (2016) discovered that some departments do not have written policies regarding how to respond to high-risk scenarios. This is concerning as these are the cases that are most likely to require some force, and should therefore, have the most comprehensive policies in place. Without a healthy police culture and the appropriate policies, departments and officers are almost sure to make mistakes regarding using force.

Furthermore, it is highly important that departments also implement necessary training procedures that focus on deconstructing these harmful police cultures and promoting positive, community centred practices (Hine et al., 2016). This should begin with making participation a requirement for certain training rather than voluntary, such as training on tasers. Understanding how to use a taser could be the difference between discharging a weapon or using more appropriate, less lethal means (Brandl & Stroshine, 2012). If an officer has not received the necessary training on how and when to use a taser, it can be theorized that their reaction in a tense situation would be to first reach for their gun (Dymond, 2020).

Making taser training a requirement in all departments could avoid the occurrence of such events.

Most training that officers receive, both from the police academy and any additional training, tends to focus on how to use force rather than when (Knutsson, 2010). As such, more departments should emphasize the 'when' instead of only the 'how'. Increased officer training can lessen instances of unnecessary or excessive force through improving an officer's understanding of what level of force is appropriate in what situation. It also serves to promote the use of de-escalation techniques and improves an officer's ability to handle situations without needing to threaten or show force (Knutsson, 2010). These trainings can also simultaneously work to remove the toxic policing mentality that officers should be aggressive when performing their duties.

2.6 Domestic Violence Calls and Response

A department's occupational culture can also have a profound impact on the way in which officers respond to certain calls, such as domestic violence calls (Myhill & Johnson, 2016). Police officers often consider domestic violence calls to be among the most dangerous calls to attend with a high potential for physical confrontation, or similar situations that then require close scrutinization by a supervisor (Myhill & Johnson, 2016). While this notion is supported by some research, other studies have found that domestic violence calls are not more dangerous than other calls and that it is rare for officers to be injured during these incidents (Nix et al., 2021). However, this is not the common perception among officers and law enforcement leaders, thus officers may respond with this preconceived belief in mind and be quicker to react or be more aggressive (Nix et al., 2021). They may expect to encounter a hostile suspect and be ready for immediate action.

Gabaldon (2009) found that domestic violence situations increase the likelihood of being shot by the police. This may be due to this organizational culture influencing officers' actions, or due to the nature of the call. Domestic violence typically occurs within private settings which require different decisions about force versus being in public settings (Hine et al., 2016). The officers are typically entering an enclosed space whereby their surroundings are not clearly visible, and they are likely to be closer to the suspect with limited room to defend themselves or retreat. Officers may use greater force than necessary as a means of protecting their own safety or because they are aware that there are limited witnesses around. Therefore, certain officers may feel more comfortable using more force to apprehend the suspect. A similar decision may not be made in public where an officer is more conscious of potential bystanders (Hine et al., 2016).

It could also be the case that suspects are more resistant in this context (Boivin, 2017) or more likely to be affected by alcohol, which also affects officers' perception of danger. Furthermore, the victim in the scenario may be less willing to cooperate with the police due to fearing for their own safety with the suspect still present, or the potential for them to be released from police custody (Myhill & Johnson, 2016). Additionally, the criminal justice systems response to victims of domestic violence has been historically inadequate, which may impact the victim's willingness to engage and cooperate with police (Grant & Rowe, 2011). Victims may feel that it is unsafe to relay to officers the nature of the offence and lack trust in law enforcement that they will appropriately deal with the offender.

As such, it can be difficult to obtain the necessary information around domestic violence calls in order to make decisions regarding whether to arrest the suspect or not. Given that women are far more likely to experience domestic violence than men (Andrews & Miller, 2013), it may be beneficial to have more female officers responding to these calls. Female officers are more likely to have a sympathetic or understanding approach that may encourage

victims to effectively engage with the police (Andrews & Miller, 2013). It is also imperative that departments provide specific training for officers responding to these types of calls or to only allow certain officers to respond (Kuhns et al., 2016). This may involve having a designated domestic violence officer, or team of officers, who receive further training and specialize in such matters (Kuhns et al., 2016). Research has found that many officers and agencies do not consistently use recommended approaches which require completing a domestic violence risk assessment (Grant & Rowe, 2011). This is the result of officers feeling that such models encroach on their discretion and limit their ability to effectively respond (Grant & Rowe, 2011). While it may be true that those enforcing the model are not experiencing the situation first hand, it is necessary for such models to exist to promote a uniform response that limits instances of unnecessary force and repeat victimization. Implementing a designated team model can also serve to eliminate issues regarding discretion, as responders should be more aware of the sensitive nature of domestic violence calls and understand that the situation is not best served by relying on individual discretionary powers.

2.7 Police Training Simulator Research

Simulations have been used as tools for training and research for an extensive period of time. Simulation training is used in a range of professions such as being a pilot, air traffic controller, bus driver, a soldier, and a police officer (Comiskey et al., 2021). The purpose of implementing simulations in law enforcement training is to increase a person's exposure to various situations, especially stressful and high-risk situations that may result in required use of force and potentially fatalities (Comiskey et al., 2021; Martaindale et al., 2024). In the context of policing, this typically involves presenting officers with different situations of varying severity and complexity and requiring varied levels of force and equipping them with a simulator firearm and other less lethal tools of force to assess their responses (Comiskey et

al., 2021). This practice grants the officer the ability to understand their shortcomings or misguided actions in a controlled environment before they encounter such circumstances in the real world. From here, supervisors are able to scrutinize their actions and identify areas of improvement (Comiskey et al., 2021). With this rationale, officers should be better equipped to handle real world situations, make better decisions, and theoretically reduce instances of unnecessary or excessive force.

Furthermore, simulations operate under the notion that humans learn best by doing, rather than only learning through reading or absorbing material provided to them. By providing officers with a tool that engages with them, represents circumstances that are relevant to their everyday responsibilities and allows them to practice what they have learned, they can perform to a higher standard (Comiskey et al., 2021; Martaindale et al., 2024). Practice promotes improvement and simulations provide a safe way to practice with minimal negative consequences. More and more departments, both nationally and internationally, have begun to recognise the benefits of such tools which can be seen in their considerable growth in adoption over the years (Comiskey et al., 2021). This growth has also resulted in an increase in research on the effectiveness of simulation trainings and how transferable the skills practiced in the simulations are to the real world.

For example, James et al. (2018) used a high-definition deadly force decision making simulator to assess whether suspect race is a predictor of police behaviour when controlling for neighbourhood context and suspect resistance. The simulation ran through multiple 3-minute scenarios, such as vehicle stops, welfare checks and investigations of suspicious circumstances, which had numerous potential outcomes based on the officers' actions (James et al., 2018). There were six variations for each of the scenarios, with the changes revolving around the suspects race and attire. The officers were also equipped with simulated firearms.

Through using this simulation technique, James et al. (2018) concluded that suspect race was not a predictor of police behaviour and that suspect behaviour was the largest predictor.

Similarly, Comiskey et al. (2021) used a VirTra-300 firearms and tactics simulation to assess officers' perceptions of the effectiveness of using these simulations as a training mechanism and how well the skills practiced transfer to the field. Comiskey et al. (2021) had the officers complete a questionnaire prior to undergoing the simulation and then again after they had completed the training. This type of simulation consisted of five screens and provides a fairly immersive experience. The 13 scenarios that were used included active shooter, domestic violence, emotionally disturbed person, suicidal suspect and suspicious suspect scenarios. Participants were equipped with a model simulation pistol and responded accordingly, while an operator would change the suspects behaviour in real time based on the officer's actions. Comiskey et al. (2021) found that the majority of the officers who participated in the study considered the simulation training to be of value and to be more effective than traditional firearm training. The participants also reported increased confidence and situational awareness, improved decision-making skills and that they were better prepared for handling critical situations (Comiskey et al., 2021). Furthermore, the results were influenced by an officer's level of education and their age. Officers that possessed a bachelor's degree or higher were more likely to perceive the training as beneficial, while older officers were less likely to consider the simulation as a beneficial training tool (Comiskey et al., 2021).

While these examples can help demonstrate the positives of utilising simulations in law enforcement training, it is also important to acknowledge that it is necessary that officers are receptive to this method to maximise its effectiveness. If older officers, or less educated officers, are not perceiving the training to be of benefit to them, then they may be less likely to adequately engage with the scenarios and ultimately learn from the experience (Comiskey

et al., 2021). Investing in such equipment and training could then become a waste of time and resources. As such, it may be appropriate to first assess officers' willingness to engage with a simulation and whether they think it would be useful. Simulations can then be implemented in departments and among officers that are more receptive to lessen the unnecessary expenditure of resources.

2.8 Citizens Academies

Historically, there has been tension between law enforcement and the public, especially minority communities (Breen & Johnson, 2007). However, in recent years, especially in the wake of racial movements such as Black Lives Matter, there has been a substantial push for improved police-citizen relations and procedural justice (Breen & Johnson, 2007). One method that has been developed as a means of beginning to address these concerns is citizen academies (Perez et al., 2022). These were first developed in Britain as a night school before eventually being implemented in Florida and the rest of the United States (Breen & Johnson, 2007; Lee, 2016). Currently, citizen academies are prevalent in upwards of half of all departments in the nation (Breen & Johnson, 2007; Perez et al., 2021). These academies offer planned programs developed and run by officers to educate citizens on police operations and law enforcement related issues (Breen & Johnson, 2007). These programs are important as the majority of citizens only interact with police on trivial or non-critical matters, such as during a traffic stop, witnessing an acquaintance being arrested, or to report a crime (Lee, 2016). As a result, the perception that an individual has of the police largely stems from the media that they are exposed to (Lee, 2016). This is concerning because in recent years, much of the media coverage that the police receive is in relation to instances of excessive force or misconduct, not positive events (Lee, 2016).

Citizen academies aim to combat negative perceptions by improving the cooperation and trust between the police and citizens, by providing an opportunity to engage positively with the police, and by increasing citizens knowledge and understanding of daily practices (Breen & Johnson, 2007; Lee, 2016; Morse, 2012; Perez et al., 2021). These programs can vary in length (Perez et al., 2021) but typically span 20 hours over a 12-week period (Morse, 2012). Topics that may be covered in these sessions include patrol operations, investigations, a review of courts and the legal system, use of force, and drug task forces (Lee, 2016). Citizens may also be able to have hands-on experiences through joining officers on a ride along and performing in simulations (Breen & Johnson, 2007; Lee, 2016; Morse, 2012). Citizen academies are advertised as being open to anyone in the community that is of age and able to sufficiently pass a background check (Lee, 2016).

Research indicates that these academies have been found to be effective in improving individuals trust in the police and providing them with a greater understanding of the daily tasks and operations that police perform (Breen & Johnson, 2007; Lee, 2016; Perez et al., 2021). Citizens also gain improved knowledge of police limitations, officer accountability and instances that result in use of force (Breen & Johnson, 2007; Perez et al., 2021). Participants in these programs have also expressed feeling a greater sense of familiarity with the police chief and understanding officers on a more personal level (Lee, 2016). These factors together can then work to increase citizens willingness to cooperate with the police (Lee, 2016). Similarly, citizen academies grant police officers the ability to interact with citizens in a more stable and friendly environment, which may reduce instances of discrimination and racial profiling. Findings from Perez et al. (2021) further emphasize the importance of positive interactions between law enforcement and the public as they concluded that the increased knowledge of practices that is gained from participating in citizen academies actually comes from getting to know the officers better, rather than learning

through a seminar or class. Perez et al. (2021) posited that the academies enable citizens to relate to the officers on an emotional level which increases their engagement in the program.

Importantly, these effects obtained from participation have been found to withstand over time. Perez et al. (2022) concluded that the effects six months post completion, while dropping, were still higher than before the person participated in the academy (Perez et al., 2022). They theorize that it is the emotional aspect of the program, whereby citizens can take the perspective of the officer and relate to them personally, that produces this lasting effect (Perez et al., 2022). As such, simulations in particular may be beneficial as they are effective at putting citizens in the position of an officer. However, it is necessary to acknowledge that the participants in this study, and many others, already often held positive views of the police before completing the program (Perez et al., 2022). It would be beneficial for research to consider whether individuals who hold negative views of the police would experience the same effects after completing the academy.

Although, this may be difficult to achieve as citizen academies are usually targeted towards white middle- and high-income civilians (Lee, 2016). Due to the program requiring a small fee to enrol and excluding individuals who have a criminal background, low income and minority communities are limited in their ability to participate (Lee, 2016). Black individuals are disproportionately involved in the criminal justice system and therefore the recruitment of black citizens does not appear to be common within citizen academies (Lee, 2016). This is especially problematic as minority individuals are more likely to hold negative views of the police than white people; as such, their participation is imperative in working toward improved police-citizen relations (Lee, 2016).

Additional issues with these programs include assessing the true nature of the program, liability issues, and overzealous participants (Lee, 2016). Departments are likely

aware of their reputation within the community in which they operate and may implement the academy as a means of improving their image and face value. The goal is to educate citizens and build their trust in the police, not simply have them side with officers (Lee, 2016). Furthermore, liability issues may arise due to citizens needing to sign a waiver in order to participate. This is to cover for the department if a person is injured, killed, or more likely, traumatized during the process (Lee, 2016). A final challenge with implementation is the fact that some citizens may feel well informed after completion and want to engage in vigilante behaviour (Lee, 2016). It is important that citizens understand that participation does not grant them special rights or privileges that enable them to perform the role of the police (Lee, 2016). In consideration of these limitations, it is also necessary that more research is conducted on citizen academies and their effectiveness (Breen & Johnson, 2007).

2.9 Purpose of the Current Study

The consensus in the literature is that young male officers are responsible for the majority of use of force instances. Specifically, young male officers are more likely to use force than female and older officers, and to use a greater level of force, while female officers tend to use de-escalation tactics at a greater rate than male officers. Minorities are most often subjected to this force and this force is often greater than that experienced by white people. Additionally, officers are found to have a lower threshold for using force against minorities than they do white people. That is, officers will make the decision to use force against a minority suspect quicker than they will for a white suspect. The literature highlights the importance of utilizing de-escalation tactics as it is determined that they reduce the likelihood of officers using force and to decrease the risk of harm to officers and citizens. Research on the benefits of de-escalation training on reducing officer use of force is limited, however, the existing research does find that de-escalation training provided on a random basis can be

effective in reducing officer use of force and officer and citizen injuries. Furthermore, it is found that domestic violence calls increase the risk of officer's using force.

As such, the current study seeks to understand the influence of officer age and years of experience on decisions to use force when attending (simulated) domestic violence calls. The research questions that will be addressed in this paper include:

1. Do officer age and years of experience influence whether an officer uses force when responding to a domestic violence simulation?
2. Do officer age and years of experience impact the time it takes for an officer to decide whether to use force?
3. Do officer age and years of experience impact the level of force used in a domestic violence simulation environment?

CHAPTER 3: METHODS

3.1 Overview

This paper is part of a larger research effort, and this summarized methods section has been drawn from the full methodological description (see Exum et al., 2022). The analyses are based on a sample of 64 law enforcement officers and 102 civilians. All 166 participants completed a domestic-violence related training scenario inside a firearms training simulator. Participants interacted with a noncompliant suspect on a 270-degree video screen and could attempt to resolve the simulated conflict with de-escalation tactics, non-lethal force options (pepper spray or taser), or lethal force (firearm). De-escalation techniques include behaviours such as creating distance between themselves and the suspect and active listening. The task involved subduing a suspect who is actively avoiding arrest and is about to stomp on a police officer who was pushed to the ground. Data collected from this training simulator exercise included: 1) whether the participant used any type of force; 2) if force was used, the length of time required to make that decision; and 3) the type of response tactic the participant used, be it de-escalation techniques, non-lethal force options (pepper spray or taser), or the lethal force option.

3.2 Recruitment and Study Participants

Law Enforcement Officers

One hundred twenty-seven officers across seven agencies were initially recruited for this study. Five officers were excluded from the current analyses because the only study component they completed was the firearms training exercises on the original (single screen) VirTra-100® simulator versus the VirTra-300® screen. An additional five officers were excluded because they never completed any of the study components. A further fifty-three officers were excluded because they failed to complete other necessary components to satisfy participation requirements. Over the data collection period, 64 officers completed the

simulator training exercise and were therefore viable cases for use in addressing the current study's research questions.

Thus, the final sample of officers included in these analyses is 64 sworn officers. Most officers in the sample are male (89%) and White (89%). All of the officers were working full-time within their respective departments. On average, officers were 36 years old with roughly 10 years of experience as a law enforcement officer.

Civilians

Civilians who were 18 years of age and older, with no prior law enforcement or military training, were recruited to participate in the study. The study included participants who lived in a metropolitan county in North Carolina. According to the U.S. Census data, the county population is approximately 70% White (non-Hispanic/Latino), 13% Black, 4% Asian, and 12% Hispanic/Latino (includes persons of any race). Approximately 50% of residents are male, and 13% of residents are aged 65 or older.

In an attempt to recruit a diverse sample of participants, a variety of recruitment strategies were adopted (see Exum et al., 2022). A total of 102 civilians were recruited into the current sample. The sample is predominately White (83%) and the majority is male (62%). The average age of the sample is 46.0 years (SD=13.5), with approximately 10% being 65 years or older.

3.3 Materials and Measures

Training Simulator

All officer and civilian participants completed a domestic-violence related use of force exercise inside a VirTra-300® firearms training simulator. Participants wore a duty belt while inside the simulator. The belt contained a modified Glock-22 service firearm that would "shoot" infrared light at the video screen when fired. The gun had the look, feel, and weight of an actual service firearm. A carbon dioxide canister inside the gun generated recoil each

time the trigger was pulled. The duty belt also housed a pepper spray canister that fired infrared light, and a standard issue police taser with the probe cartridges removed and replaced with cartridges that fired infrared light. Finally, all participants wore a V-Threat-Fire® device on the back of the duty belt. This device would deliver a 0.25-second electric impulse through the clothing and to the waist of the participant if the participant was shot/attacked by a suspect on the screen. While painful, the shock is not debilitating. It is used to simulate a physical threat, making the training scenario more stressful and therefore more realistic.

A firearms instructor from the local police department operated the simulator and would launch the scenario. While the scenario had multiple branching points that could change the course of events seen on screen, the instructor allowed the scenario to unfold according to a single, predetermined outcome. If the suspect on the screen attacked the participant in some way (e.g., shot the participant), then the instructor would activate the V-Threat-Fire® device to deliver an electric shock to the participant.

Training Scenario

All participants completed the domestic violence related training scenario. The scenario begins in a moving police car and participants assume the role of an officer who is on duty with another officer (displayed on screen). A radio dispatch operator can then be heard requesting a response to a domestic violence call. The partner answers the dispatch operator and informs the participant that she has attended previous domestic violence calls at this location. When they arrive at the location, they encounter a distraught female who is bleeding from the face and a muscular white male suspect who is attempting to flee by car. At the on-screen officer's command, the suspect exits the car but remains defiant, and he eventually knocks the female on-screen officer to the ground and attempts to stomp on her.

The total amount of time required to complete the scenario —including the time to become familiar with the duty belt and receive general instructions—was approximately 5-10 minutes. While completing the exercise, participants could also respond to the individuals on the screen by using de-escalation techniques or discharging the pepper spray, taser or firearm. Video cameras stationed around the simulator recorded participants as they completed the exercises. These recordings were later reviewed and coded to determine which techniques participants used (see [Exum et al., 2022] for a full discussion of the coding procedures and inter-rater reliability checks). Failure to effectively resolve the on-screen threat would result in the injury/death of the on-screen officer in the scenario.

Demographic Questions

All participants were asked to complete an online survey that included questions about their age, sex, and race. The online survey contained additional sets of questions that were part of a larger research project and are beyond the scope of the current study.

Professional Experiences (Law Enforcement Participants Only)

Officers were asked how many years of experience as an officer they have completed at their current agency (continuous variable), and across all agencies at which they have worked.

Independent Variables

This study focused on whether officer age and years of experience impact the level of force used in domestic violence situations. Officer age was measured in years (continuous variable) while years of experience was measured by the number of years officers have worked across all departments in their career (continuous variable). The effect of age and years of experience will both be examined as collinearity was not an issue.

Dependent Variables

Three dependent variables were used to measure use of force: whether any force was used, the time it took to use force, and the level of force used. Whether force was used was coded as a dichotomous variable (0 = no, 1 = yes). The time it took to use force was measured as the time it took, measured in seconds (continuous variable), for a subject to use their weapon within the simulated scenario. This only applied for those who used pepper spray, a taser, or firearm. Data was not recorded if only de-escalation tactics were used or if no force was used. The level of force used was measured as the most severe level of force used within the scenario and was originally coded as a five-item categorical variable (0 = no tactic used, 1 = de-escalation, 2 = pepper spray, 3 = taser, and 4 = firearm). However, this was recoded into a four-item categorical variable by combining pepper spray and taser (0 = no tactic used, 1 = de-escalation, 2 = pepper spray and taser, and 3 = firearm).

Control Variables

Prior research suggests that an officer's sex may impact their decision to use force, while the literature regarding race remains mixed. As such, the control variables within this study include the subject's race, sex, and participant group. Race was originally coded into seven categories (1 = White; 2 = Black or African American; 3 = Hispanic, Latino/Latina, or Spanish origin; 4 = American Indian or Alaskan Native; 5 = Asian; 6 = Native Hawaiian or other Pacific Islander; and 7 = Other). However, race was recoded into two categories (1 = White and 2 = Non-white) for the subsequent analyses. Sex was coded as female (0) or male (1) and participant group was coded as civilian (0) or officer (1).

Analytical Strategy

A series of chi-square tests of independence were first conducted to assess the relationship between race and sex, race and participant group, sex and participant group, and participant group and the level of force used. This was followed by a Pearson correlation

assessing age and years of experience and tests of collinearity to assure that collinearity was not an issue. Two additional Pearson correlations were conducted to assess the relationship between age and the time it took to use force, and years of experience and the time it took to use force. Next, several independent samples t-tests were performed to examine the relationship between age and sex, age and race, age and participant group, age and the decision to use force, and years of experience and the decision to use force. Lastly, two one way ANOVAs were performed to examine the effect of age on the level of force used and the effect of years of experience on the level of force used.

To assess the impact of officer age and years of experience on the level of force used in domestic violence situations, various forms of regression were used. Binary logistic regression was used to examine the impact of age and years of experience in predicting whether force was used. This type of regression is appropriate when the outcome variable is dichotomous. Ordinary Least Squares (OLS) regression was used to assess the impact of age and years of experience in predicting the time it took for an officer to use a weapon (pepper spray, taser, or firearm). OLS was considered the most appropriate due to the outcome being measured in seconds and thus a ratio variable. Multinomial logistic regression was then used to examine the effect of age and years of experience on the level of force used. This form of regression was used due to the ordinal nature of the outcome variable. The control variables (sex and race) were included in all of the models. In these analyses, p values $<.05$ were considered statistically significant. All statistical tests were performed using SPSS 28.0 software.

CHAPTER 4: RESULTS

4.1 Sample Characteristics

Officers

Officer participants were predominantly White (89.1%), followed by Black/African American (3.1%), Hispanic (3.1%), Asian (3.1%), and American Indian or Alaskan Native (1.6%). No participants within the officer sample identified as Other or Native Hawaiian or other Pacific Islander. This is generally representative of the departments from which officer participants were recruited. Regarding sex, 89.1% of the sample was male and 10.9% were female. Officers had an average age of 35.80 (SD = 9.155) and an average of 10.14 (SD = 8.644) years of experience. In reference to the level of force used, 17.2% of officers used no tactic, 21.9% used de-escalation tactics, 25.0% used pepper spray or a taser, and 35.9% used their firearm.

Civilians

The majority of the civilian sample were also white (82.5%), followed by Black/African American (5.8%), Hispanic (5.8%), Other (2.9%), American Indian or Alaskan Native (1.0%), Asian (1.0%), and Native Hawaiian or other Pacific Islander (1.0%). Males made up 61.8% of the sample and 38.2% were female. They had an average age of 45.99 (SD = 13.456). Regarding level of force, 28.4% of civilians used no tactic, 4.9% used de-escalation tactics, 21.6% used pepper spray or a taser, and 45.1% used their firearm. This demographic information can be seen in Table 1.

Table 1

Participant Demographics

	Civilian Sample (n = 102)		Officer Sample (n = 64)	
	Mean or %	SD	Mean or %	SD
Demographics				
Age in years	45.99	13.456	35.80	9.155
Sex				
Male	61.8%	-	89.1%	-
Female	38.2%	-	10.9%	-
Race				-
White (non-Hispanic)	82.5%	-	89.1%	-
Black or African American	5.8%	-	3.1%	-
Hispanic	5.8%	-	3.1%	-
American Indian or Alaskan Native	1.0%	-	1.6%	-
Asian	1.0%	-	3.1%	-
Native Hawaiian or other Pacific Islander	1.0%	-	0%	-
Other	2.9%	-	0%	-
Officer Only Measure				
Years of experience	-	-	10.14	8.644
Level of Force				
No tactic used	28.4%	-	17.2%	-
De-escalation	4.9%	-	21.9%	-
Pepper Spray and Taser	21.6%	-	25.0%	-
Firearm	45.1%	-	35.9%	-

4.2 Bivariate Analyses

Chi square tests

Three chi-square tests of independence were performed to examine the relationship between race and sex, race and participant group, and sex and participant group. A significant association was found between race and sex, $x^2(1) = 6.048$, $p < .05$, and sex and participant group, $x^2(1) = 14.629$, $p < .001$. These results indicate that there were racial group differences between males and females, specifically that there were significantly more white men (64.5%) and men generally (72.3%) within the sample than females (27.7%) and non-white participants (15.1%). There were also gender differences between officers and civilians, with

the sample being comprised of significantly more male officers (34.3%) and male civilians (38%) than female officers (4.2%) and female civilians (23.5%). Within the female group, there were significantly more female civilians than female officers. A significant association was not found between race and participant group, x^2 (1) = 1.326, p = .250.

An additional chi-square test of independence was performed to examine the relationship between participant group and the level of force used. A significant association was found, $x^2(3) = 13.148$, $p < .01$. These results indicate that there were differences in the level of force used between officers and civilians, specifically that officers used significantly more de-escalation tactics than civilians.

Pearson Correlation

A Pearson Correlation was conducted to assess the relationship between an officer's age and years of experience. Civilians were not included in this analysis. A strong, positive association was found between these variables ($r[62] = .819$, $p < .001$), which suggests that as age increases, so too does an officer's years of experience. Further tests were then performed to determine if collinearity existed between age and years of experience. The results indicate that this assumption was not violated (Age, Tolerance = .330, VIF = 3.033).

Two additional Pearson Correlations were performed to examine the relationship between age and the time it took to use force, and years of experience and the time it took to use force. Civilians were not included in the latter analysis. A significant association was not found between age and the time it took to use force, $r(164) = .143$, $p = .141$, or years of experience and the time it took to use force, $r(62) = .091$, $p = .584$.

T-tests

Three independent samples t-tests were conducted to compare age across sex, age across race, and age across participant group. The first t-test did not find a significant effect

for sex, t(164) = .137, *p* = .892, despite females (M=42.28, SD = 13.111) being slightly older than males (M = 41.98, SD = 12.936). The second t-test assessing age across race did not find a significant difference in age for white participants (M = 42.70, SD = 13.157) compared to non-white participants (M = 38.48, SD = 11.259), t(164) = 1.506, *p* = .134. The final t-test comparing age in participant groups found that participants in the civilian group (M = 45.99, SD = 13.456) were significantly older than participants in the officer group (M = 35.80, SD = 9.155), t(164) = 5.332, p = <.001. This is displayed in Table 2.

An additional two t-tests were performed to compare age across the decision to use force or not, and years of experience across the decision to use force or not. The latter t-test included officers only. The t-test comparing age across the decision to use force did not find a significant effect for the use of force, t(164) = -.845, *p* = .152, with participants who used force (M = 42.69, SD = 12.324) only being marginally older than participants who did not use force (M = 40.92, SD = 14.041). The t-test assessing years of experience across the decision to use force did not find a significant effect for the decision to use force, t(62) = -.487, *p* = .685, with officers who used force having only slightly more years of experience (M = 10.56, SD = 8.663) than officers who did not use force (M = 9.48, SD = 8.752).

Table 2

T-tests Comparing Age Across Sex, Race and Participant Group

	Age		
Variable	Mean	SD	t-value (Significance)
Sex			.137(.892)
Male	41.98	12.936	
Female	42.28	13.111	
Race			1.506(.134)
White	42.70	13.157	
Non-White	38.48	11.259	
Participant group			5.332(<.001)
Officer	35.80	9.155	
Civilian	45.99	13.456	

ANOVA

A one-way ANOVA was performed to compare the effect of age on the level of force used within the simulation. This analysis revealed a non-significant effect of age on the level of force used, $F(51,114) = 1.329$, $p = .107$. A second ANOVA was conducted to compare the effect of years of experience on the level of force used. This model only included participants within the officer group. The analysis revealed a non-significant effect of years of experience on the level of force used, $F(24,39) = .971$, $p = .520$.

4.3 Binary Logistic Regression

A series of binary logistic regression models were conducted to assess the impact of age and years of experience in predicting whether force was used within the simulation. All three of the models included race and sex as control variables. The first model only included participants who were in the officer category. The overall model was not statistically significant. The results are displayed below in Table 3.

Table 3

Binary Logistic Regression Model Predicting the Effect of Age and Years of Experience on Whether Force Was Used Among Officers

Variable	Coeff	S.E.	Odds Ratio	*p*-value
Age	.051	.056	1.052	.367
Race (white = 1)	.690	.933	1.995	.459
Sex (male = 1)	1.360	.916	3.897	.138
Years of Experience	-.033	.059	.967	.570
Constant	-2.995	1.965	.050	.127
$x^2 = 4.875$				

Note: N = 64; * $p < .05$; ** $p < .01$; *** $p < .001$

The second model included civilian only participants and excluded years of experience in law enforcement. The results are presented in Table 4. The overall model did not reach significance.

Table 4

Binary Logistic Regression Model Predicting the Effect of Age on Whether Force Was Used Among Civilians

Variable	Coeff	S.E.	Odds Ratio	*p*-value
Age	.003	.016	1.003	.870
Race (white = 1)	.345	.594	1.412	.561
Sex (male = 1)	.051	.443	1.052	.908
Constant	.139	1.154	1.149	.904
$x^2 = .353$				

Note: N = 102; * $p < .05$; ** $p < .01$; *** $p < .001$

The final binary logistic regression conducted included both officers and civilians. The overall model was not statistically significant (see Table 5).

Table 5

Binary Logistic Regression Model Predicting the Effect of Age on Whether Force Was Used Among Both Officers and Civilians

Variable	Coeff	S.E.	Odds Ratio	*p*-value
Age	.009	.014	1.009	.512
Race (white = 1)	.506	.494	1.659	.305
Sex (male = 1)	.367	.388	1.444	.343
Participant's Group (officer = 1)	-.227	.383	.797	.554
Constant	-.541	.973	.582	.578
$x^2 = 2.667$				

Note: N = 166; * $p < .05$; ** $p < .01$; *** $p < .001$

4.4 Ordinary Least Squares Regression

Ordinary least squares regression models were used to assess whether age and years of experience impact the amount of time it takes to decide to use a weapon. Each model used race and sex as control variables. The first model only included participants in the officer group. The overall model was not statistically significant. The R^2 value (.074) indicates that the variables in the model only explain 7.4% of the variation in the time it took for an officer to decide to use a weapon. The results are displayed in Table 6.

Table 6

Ordinary Least Squares Regression Model Predicting the Effect of Age and Years of Experience on the Time it Took to Use a Weapon Among Officers

Variable	Coeff	S.E.	β	t
Age	.416	.378	.280	1.101
Sex (male = 1)	-6.409	9.999	-.107	-.641
Years of Experience	-.155	.395	-.100	-.392
Race (white = 1)	6.707	6.636	.169	1.011
Constant	58.882	15.819		3.722
R^2 = .074				
F = .682				

Note: N = 64; * $p < .05$; ** $p < .01$; *** $p < .001$

The second model only included civilian participants and excluded years of experience. The results are presented below in Table 7. The overall model was found to be statistically significant, $R^2 = .116$, $F(3,64) = 2.805$, $p = <.05$. The R^2 value indicates that the variables in the model explain 11.6% of the variation in the time it took for a civilian to use a weapon within the simulation. The only significant individual predictor was race, $\beta = -.343$, $p <.01$. These findings indicate that race is the only variable to affect the time it takes for a civilian to use a weapon.

Table 7

Ordinary Least Squares Regression Model Predicting the Effect of Age and Years of Experience on the Time it Took to Use a Weapon Among Civilians

Variable	Coeff	S.E.	β	t
Age	.024	.071	.040	.338
Sex (male = 1)	-1.219	1.877	-.079	-.649
Race (white = 1)	-6.575**	2.336	-.343	-2.815
Constant	83.836	4.883		17.168
R^2 = .116				
F = 2.805*				

Note: N = 64; * $p < .05$; ** $p < .01$; *** $p < .001$

The final ordinary least squares regression model included both officer and civilian participants. The results can be seen in Table 8. The overall model was not statistically

significant. The R^2 value (.034) indicates that the variables in the model only explain 3.4% of the variation in the time it took to use a weapon.

Table 8

Ordinary Least Squares Regression Model Predicting the Effect of Age and Years of Experience on the Time it Took to Use a Weapon Among Officers and Civilians

Variable	Coeff	S.E.	β	t
Age	.089	.087	.108	1.027
Sex (male = 1)	-1.022	2.429	-.045	-.421
Race (white = 1)	-2.640	2.686	-.098	-.983
Participant's Group (officer = 1)	-1.308	2.348	-.063	-.557
Constant	76.034	5.826		13.051
R^2 = .034				
F = .904				

Note: N = 64; * $p < .05$; ** $p < .01$; *** $p < .001$

4.5 Multinomial Logistic Regression

Given that the dependent variable (level of force) had more than two categories, three multinomial logistic regression models were conducted to assess the effect of age and years of experience on the level of force used. The reference category across all analyses was no force used (over de-escalation, pepper spray and taser, and firearm). Each model included race and sex as control variables and used different participant groups. The first regression model only included participants who were officers. The overall model did not reach significance. The results are presented in Table 9.

A second model only included participants within the civilian group. The overall model did not reach statistical significance. The results are displayed in Table 10. The final multinomial logistic regression conducted consisted of both officers and civilians. The overall model was found to not be statistically significant. The results are presented in Table 11.

Table 9

Multinomial Logistic Regression Model Predicting the Effect of Age and Years of Experience on the Level of Force Used Among Officers

	Verbal De-escalation			Pepper Spray & Taser			Firearm		
Variable	Coeff	S.E.	OR	Coeff	S.E.	OR	Coeff	S.E.	OR
Intercept	.011	2.964		-18.248	2.825		-3.243	2.536	
Age	-.012	.094	.988	.015	.081	1.015	.064	.074	1.066
Sex (male = 1)	-.584	1.104	.558	17.690	.000	48177443.240	.386	1.146	1.471
Years of Experience	.111	.106	1.118	.066	.096	1.068	.021	.089	1.021
Race (white = 1)	.120	1.523	1.127	.029	1.527	1.030	1.151	1.233	3.160
$x^2 = 11.956$									

Note: N = 64; The reference category is No Force Used; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 10

Multinomial Logistic Regression Model Predicting the Effect of Age on the Level of Force Used Among Civilians

	Verbal De-escalation			Pepper Spray & Taser			Firearm		
Variable	Coeff	S.E.	OR	Coeff	S.E.	OR	Coeff	S.E.	OR
Intercept	-1.868	2.661		.563	1.603		-.628	1.327	
Age	-.030	.036	.970	-.009	.021	.991	.001	.018	1.001
Sex (male = 1)	1.181	1.203	3.257	.179	.594	1.197	.229	.502	1.257
Race (white = 1)	.537	1.301	1.710	-.472	.939	.624	.751	.666	2.119
$x^2 = 4.930$									

Note: N = 102; The reference category is No Force Used; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 11

Multinomial Logistic Regression Model Predicting the Effect of Age on the Level of Force Used Among Officers and Civilians

	Verbal De-escalation			Pepper Spray & Taser			Firearm		
Variable	Coeff	S.E.	OR	Coeff	S.E.	OR	Coeff	S.E.	OR
Intercept	-1.598	1.801		-.311	1.392		-1.239	1.171	
Age	-.005	.027	.995	.002	.019	1.002	.011	.017	1.011
Sex (male = 1)	.051	.727	1.052	.517	.547	1.677	.313	.457	1.367
Race (white = 1)	.045	.933	1.046	-.329	.789	.720	.833	.581	2.301
Participant's Group (officer = 1)	1.936**	.723	6.928	.520	.543	1.682	.356	.495	1.428
$x^2 = 18.879$									

Note: N = 166; The reference category is No Force Used; * $p < .05$; ** $p < .01$; *** $p < .001$

CHAPTER 5: DISCUSSION

5.1 Overall Findings

This study sought to understand the influence of officer age and years of experience on decisions to use force when responding to a simulated domestic violence call. This involved addressing three research questions relating to whether force was used, the time it took for a participant to use a weapon and the level of force used. Three models of regression were used: binary logistic regression, ordinary least squares regression and multinomial logistic regression, respectively.

Regarding the first and second research questions, the regression models were not able to predict whether force was used for both officers and civilians, nor the amount of time it took for participants to use force. That is, the findings suggest that age and officer years of experience do not influence the decision to use force or the time it takes for a participant to use force. In light of this, race was found to be a significant predictor regarding the amount of time it took for civilians to decide to use force. This finding suggests that different races varied in their response time in a simulator. Specifically, non-white civilian participants appeared to make the decision to use force quicker than white civilian participants. Given that these results were not also recorded across officer participants, it could be theorized that this finding reflects a phenomenon present within larger society. It is well known within the literature that non-white civilians disproportionately reside in high crime, disadvantaged areas, compared to white people (Chapman, 2012; Nouri, 2021). Consequently, non-white people may experience greater exposure to violence and witness more adverse experiences with law enforcement. This decreased perception of safety may result in them being more prepared to react when they see a violent scene unfold before them. This is one possible explanation for why non-white civilians in this study used force quicker than white civilians. This theoretical explanation is in line with the current research (Chapman, 2012; Lersch et

al., 2008) and future research would do well to assess this further and consider alternative reasons for this racial difference. It is also possible that the non-white participants viewed the angry white male in the scenario with greater fear than the white participants, given the racial climate at the time of completing the scenario (ongoing George Floyd protests and the death of Breonna Taylor, Amaud Arbery and others).

Regarding the third research question, age and years of experience were again not able to predict the level of force that participants used. However, an association was found between participants group and the use of de-escalation tactics. That is, participants in the officer group used more de-escalation tactics than participants in the civilian group, which may reflect an officer's prior training in responding to volatile events, such as the domestic violence simulation. In support of findings by White et al. (2021), it could be that officers understand the importance of training, are engaged during the process, and therefore able to effectively utilize it when they find themselves needing to respond to high pressure situations. Furthermore, this adds to the current movement within the literature to increase de-escalation strategies and implement more de-escalation specific training. It can be assumed that greater use of de-escalation methods within real-world settings would lead to a decrease in instances of inappropriate use of force. Additionally, these findings are a direct contradiction to Dymond (2020) who asserted that officers within the US tend to over-rely on using tools of force to gain control over a situation. In this study, officers recognized the importance of using de-escalation tactics as an appropriate method to gain compliance when responding to a simulated domestic violence call. This is especially significant when one considers the shared perception among law enforcement officers that domestic violence calls are particularly dangerous (Myhill & Johnson, 2016; Nix et al., 2021; Kuhns et al., 2016). This willingness to utilize de-escalation strategies within this context could have powerful effects in successfully reducing tension between officers and suspects in real world interactions.

Notably, it must also be acknowledged that the lack of findings in relation to age and years of experience and officers use of force are inconsistent with the current literature that suggests that younger officers, with less experience, use force more often, and greater force, than older officers (Gaub et al., 2021; Gabaldon, 2009; Knutsson, 2010; Lee et al., 2014; McElvain & Kposowa, 2004; Boivin & Lagace, 2016). This may be due to other factors such as small sample size. This limitation and others will be discussed in detail below.

5.2 Limitations

As with all research, this study has several limitations that should be considered alongside the results. This includes issues relating to sample size and composition, the inability to change elements within the simulation scenario, and the exclusion of potentially influential extraneous variables, such as participants previous simulation experience and the date that the study was conducted. This last one is significant given the events of COVID-19 and the George Floyd protests. These will each be discussed sequentially below.

Sample Size and Composition

The first limitation is the small sample size. While this study made a step in the right direction and provides a strong foundation for future research to build upon, the results should be interpreted with caution given the small sample size among officers and citizens. Although the sample is representative of the population from which it was drawn, the sample size limits the ability to generalize the results to the larger population and leaves room for speculation regarding whether the same results would be seen with a larger sample size in a different setting. Future research should consider replicating the results with a larger sample size, and across different types of law enforcement agencies. Furthermore, the sample consisted of predominantly white males, which reduces the samples generalizability. Given the growing concerns regarding an officer's race in use of force situations, greater racial

diversity within use of force research is necessary. It would also be interesting to increase the number of female participants, especially as they are consistently involved in lower incidents of force.

Unable to Change the Simulation Scenario

Another limitation to consider was the inability to change elements within the simulation scenario. This meant that certain aspects such as officer, victim-survivor and suspect race, gender, and attire were stuck on the default setting. In this simulation, that meant that the victim-survivor and the officer being attacked were always both white women and the suspect was always a white male. This is important because the officer's gender may have influenced the respondent's reaction to the simulation due to potential internal biases. Participants may have viewed the female officer as being weaker than a male officer and thus being in greater need of assistance. It would be interesting to replicate the study and see if participants record the same results if the officer being attacked was a male.

A similar effect may have been present with the victim survivor being a woman and the perpetrator a male. This is because men are commonly viewed as the perpetrators of domestic violence and the woman the victim-survivor. This is important to acknowledge as domestic violence refers to disputes between any individuals that reside together and can comprise of a range of different relations between people, such as parent/child, roommates, or same-sex partners. As such, it is necessary to replicate the study and alter these relations to see whether this influences participants responses. Additionally, future research should also change officers and suspects race to determine the impact this also has on participants decisions to use force. Despite the inability to alter officer and suspect race, it was still discussed in detail in the literature review due to its importance within the literature.

Exclusion of Outside Influences

Other limitations to consider include participants previous simulation experience and the date that the study was conducted. While both variables were recorded and included in the dataset, this was beyond the scope of this study, and thus they were excluded from the analyses. Despite this, their importance is recognized and thus they are mentioned within the limitations to allow scholars to come to their own conclusions regarding the results. Previous simulation experience is significant as it may have influenced participants comfort with and ability to react to the scenario. It can be assumed that participants with greater simulation experience were more familiar with the exercise and responded with greater ease. Regarding the date of participation, some of the responses were captured before COVID-19, during the height of COVID-19 and after the peak of COVID-19. It is possible that the variation in dates, while a major pandemic was occurring, could have led to different stress levels within participants. This stress may have in turn, affected how participants reacted in the simulation. Similarly, the George Floyd protests, calls for major police reform, and the deaths of Breonna Taylor, Amaud Arbery and others, also occurred within the study time frame, meaning some participants completed the simulation exercise at the peak of these protests and use of force concerns, and others before or after its occurrence. Both events raise concerns regarding the internal validity of the study and thus should be accounted for in another research project.

5.3 Policy Implications and Future Research

The results found within this study have a couple of implications for policy and research moving forward. The necessity of continued de-escalation training implementation and improvement will be discussed first, followed by some suggestions for future research.

Implementation and Improvement of De-escalation Training

While this study did not provide clarity on the relationship between age and years of experience and officer use of force, it did showcase the importance of officer training. This can be inferred from officers using de-escalation tactics at a higher rate than civilians, which implies that training matters and that officers understand the power of using such strategies in high stress situations, such as when responding to domestic violence calls. Departments should continue to prioritize the implementation and development of de-escalation training both initially and at random periods throughout an officer's career. States need to focus on allocating appropriate funding to ensure that this is achievable, and the process is as seamless as possible. Greater de-escalation training should promote greater officer preparedness when responding to domestic violence calls and possibly reduce incidents of inappropriate use of force.

Research

The research community needs to dedicate more time and resources to further understand officer use of force within domestic violence settings. This is a grossly under researched topic that has the potential for alarming consequences within the field. Specifically, researchers should seek to examine the influence of de-escalation training on officer's responses to domestic violence calls and the role that officer and suspect race and gender play in the decisions to use force. One option could be to replicate this study, include data pre-and-post COVID-19 and the George Floyd protests, and enable the ability to experimentally vary demographic and contextual factors within the simulation scenario. Additionally, future studies should prioritize using larger sample sizes and continue to assess the effect of officer age and years of experience on use of force decisions. Increased research attention promotes the development of effective training standards and equips officers with

greater skills to appropriately respond to high pressure and dangerous calls, such as domestic violence incidents.

5.4 Conclusion

Officer use of force has gained significant research attention in recent years, specifically in relation to officer and suspect demographics and contextual factors. However, use of force in domestic violence settings has remained an under researched topic. This study sought to address this gap through assessing officers' decisions to use force when responding to a domestic violence simulation scenario. Although this study did not find officer age and years of experience to influence officers' decisions to use force, it did produce important findings that accentuate the importance of officer training. It can be inferred from the findings that training is beneficial in encouraging officers to use less lethal means of force, such as de-escalation tactics, when responding to domestic violence calls. Future research should continue to build upon the findings found in this study and seek to further understand officer use of force in domestic violence settings.

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